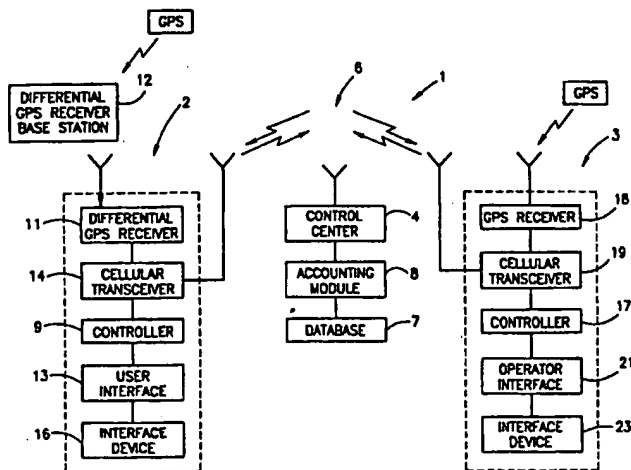




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G08G 1/127	A1	(11) International Publication Number: WO 99/44186 (43) International Publication Date: 2 September 1999 (02.09.99)
(21) International Application Number: PCT/IL99/00111 (22) International Filing Date: 24 February 1999 (24.02.99) (30) Priority Data: 123420 24 February 1998 (24.02.98) IL (71)(72) Applicant and Inventor: JAFFE, Shai [IL/IL]; Haoranin Street 8, 56516 Savion (IL). (74) Agent: REINHOLD COHN AND PARTNERS; P.O. Box 4060, 61040 Tel Aviv (IL).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: REQUEST DISPATCH SYSTEM AND METHOD THEREFOR



(57) Abstract

A system (1) for automatically assigning an available operator driven mobile unit with an operator to a user, and a method therefor, the system including (a) a plurality of portable user terminals (2) each carried by a user and having a location detection device (11) for determining the user's location and a user interface (13) for enabling its user to place a new user request and for providing him with at least an indication that the operator of an operator driven mobile unit has been assigned to him; (b) a plurality of operator terminals (3) each installed in an operator driven mobile unit and each having a location detection device (18) for determining the location of its associated operator driven mobile unit and an operator interface (21) for providing at least the details of the location of a user to whom its associated operator has been assigned and enabling an operator to acknowledge his assignment to a user; and (c) a control center for automatically assigning the operator of an available operator driven mobile unit to a user in response to a new user request placed by him in accordance with a prevailing assignment.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

REQUEST DISPATCH SYSTEM AND METHOD THEREFOR

FIELD OF THE INVENTION

This invention relates to a request dispatch system for assigning the operator of an available operator driven mobile unit to a user, and a method therefor.

5 BACKGROUND OF THE INVENTION

Taxis always have been and are increasingly becoming a still more important means of transport particularly in urban environments since, on the one hand, many commuters commute to work on public transport and therefore they do not have private means for travelling between destinations during work and,
10 on the other hand, even if a commuter does have private means for travelling between destinations, he is often not inclined to travel in his own car due to traffic congestion, trouble finding parking, and the like. In theory, taxis are readily available, however, in practice, obtaining a taxi can be a time consuming and problematic matter both in the case of ordering a taxi over the phone and
15 when trying to flag down a taxi.

SUMMARY OF THE INVENTION

In accordance with a first aspect of the present invention, there is provided a system for automatically assigning an operator of an available operator driven mobile unit to a user, the system comprising: (a) a plurality of portable user
20 terminals each carried by a user and having a location detection device for determining the user's location and a user interface for enabling its user to place a new user request and for providing him with at least an indication that the operator of an operator driven mobile unit has been assigned to him; (b) a plurality of operator terminals each installed in an operator driven mobile unit

and each having a location detection device for determining the location of its associated operator driven mobile unit and an operator interface for providing at least the details of the location of a user to whom its associated operator has been assigned and enabling an operator to acknowledge his assignment to a user; and
5 (c) a control center for automatically assigning the operator of an available operator driven mobile unit to a user in response to a new user request placed by him in accordance with a prevailing assignment protocol.

A request dispatch system of the present invention is effectively an event driven scheduler for automatically assigning operators of available operator
10 driven mobile units to users in accordance with a prevailing assignment protocol notwithstanding that it is envisaged that the running of a request dispatch system be manually overseen in the case of extraordinary events. Thus, by virtue of the present invention, users are afforded the peace of mind that they can place a new user request at any location within a catchment area serviced by a request
15 dispatch system to which they subscribe and that after he has received an indication of an assignment of an operator to him, the operator will arrive in due course. A user can optionally subscribe to a request dispatch system as a VIP user affording him higher priority during assignments of operators to users.

A request dispatch system of the present invention can be implemented for
20 enabling a user to place a user request for a wide range of services including *inter alia* to be picked up by a taxi, medical assistance, for example, after having been bitten by a snake, emergency care, for example, to rescue him if he is stranded by a roadside, and the like. Various assignment protocols are envisaged depending
inter alia on the type of service required, the time of day, the day of week or
25 month, the number of mobile units on duty, the frequency of new user requests, and the like for providing equitable treatment to both users and operators alike whilst complying with national or local legislation governing a service being provided.

A request dispatch service can preferably include an accounting module for handling all cost transactions on behalf of users whereby each user is periodically debited for his user requests. The actual cost in respect of a user request can vary according to different parameters, for example, time required to
5 fulfill the user request, the day of week or time of day that it was placed, and the like. In the case of ordering taxis, each taxi driver can be automatically credited for taxi journeys and waiting periods during a particular period thereby facilitating safer, "*cashless*" taxis. In addition, it is envisaged that a taxi driver will spend more of each shift gainfully driving users since he is continually
10 provided with a stream of new user requests in his vicinity.

In accordance with a second aspect of the present invention, there is provided a method for automatically assigning an operator of an available operator driven mobile unit to a user, the method comprising the steps of: (a) enabling a user to place a new user request; (b) automatically assigning the
15 operator of an available operator driven mobile unit to the user in response to his new user request in accordance with a prevailing assignment protocol; (c) enabling the operator to acknowledge his assignment to a user; (d) displaying at least an indication of the assignment of the operator to the user; and (e) providing at least the details of the location of a user to the operator to whom he is assigned
20 so that the operator can arrive at the user's location.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to understand the invention and to see how it may be carried out in practice, a preferred embodiment will now be described, by way of a non-limiting example only, with reference to the accompanying drawings, in
25 which:

Fig. 1 is a block diagram of a request dispatch system for automatically assigning an operator of an available operator driven mobile unit to a user in accordance with the invention;

Fig. 2 is a pictorial representation of a portable user terminal implemented as a cellular telephone like device for being carried by a user subscribing to the request dispatch service of Figure 1;

Fig. 3 is a pictorial representation of an operator terminal implemented as
5 a taxi meter like device for installation in a taxi associated with the request dispatch service of Figure 1;

Fig. 4 is a pictorial view of a typical scenario of users subscribing to the request dispatch system of Figure 1 ordering taxis; and

Fig. 5 is a flow diagram illustrating the operation of the request dispatch
10 system of Figure 1 in accordance with an exemplary assignment protocol.

DETAILED DESCRIPTION OF THE DRAWINGS

Figure 1 shows a request dispatch system 1 including a plurality of user terminals 2 each carried by a user and a plurality of operator terminals 3 each installed in an operator driven mobile unit. Both the user terminals 2 and the
15 operator terminals 3 are in two-way communication with a control center 4 via a communication network 6. The design of an operator terminal 3 is dependent on the type of operator driven mobile unit in which it is to be installed, for example, a taxi, an ambulance, a roadside assistance vehicle, and the like. By way of non-limiting example, the request dispatch system 1 and an operator terminal 3
20 are described hereinbelow in connection with users ordering taxis and for installation in a taxi, respectively.

The control center 4 is constantly updated with new user requests placed by users on their user terminals 2 and the whereabouts and the availability of taxis and is responsible for assigning available taxi drivers to users wanting taxis in
25 accordance with a prevailing assignment protocol. In addition, the control center 4 is responsible for issuing of system messages to both users and taxi drivers for ensuring the smooth running of the request dispatch system 1. The control center 4 also includes a database 7 with information regarding the users subscribing to

the request dispatch system 1 and taxi drivers and the taxis associated therewith. The information can include the name and photograph of each user and each taxi driver. The control center 4 still further includes an accounting module 8 for consolidating financial transactions in respect of user requests placed by a user
5 and user requests responded to by taxi drivers.

A user terminal 2 is under the control of a controller 9 having a Personal Identification Number (PIN) effectively corresponding to a telephone number. The controller 9 is connected a differential GPS receiver 11 for determining the location of a user from a Differential GPS base station 12. The controller 9 is
10 connected to user interface 13 having pre-set keys, programmable keys, an alphanumeric keyboard and a display (see Figure 2). The controller 9 is also connected to a cellular transceiver 14 in two-way communication with the control center 4 for transmitting new user requests and information associated therewith thereto including *inter alia* the location of its user at the time of him confirming a
15 user request and for receiving system messages therefrom. The system messages can be auditory in the form of recorded messages with fields which are suitably modified and/or visibly displayed and in the case of a user wanting to order a taxi can include *inter alia*: "*Your request is being handled. Please wait.*", "*We are sorry. No taxis are available at this time. Please try again soon.*", "*Taxi TLN*
20 *323 will pick you up in about 5 minutes. Please wait.*", and the like. The controller 9 is also connected to an interface device 16 for insertion into an interface device 23 provided in an operator terminal 3 installed in a taxi associated with the request dispatch system 1. The user terminal 2 is capable of being used as a normal cellular telephone irrespective of its capabilities in terms
25 of the present invention.

An operator terminal 3 is under the control of a controller 17 having a Taxi Licence Number (TLN) effectively corresponding to a telephone number and to which is connected a GPS receiver 18 for determining its location. The controller 17 is connected to a cellular transceiver 19 in two-way communication with the

control center 4 for providing details of its location and availability thereto and for receiving system messages therefrom. The system messages can be auditory in the form of recorded messages with fields which are suitably modified and/or visibly displayed and in the case of a taxi driver can include *inter alia*: "Please
5 note that a Type I assignment protocol is now being invoked"; "You are assigned to pick up User PIN 818 at the corner of 45 East and 5 North. Please acknowledge your assignment."; "Your assignment has been confirmed. Please pick up User PIN 818 at the corner of 45 East and 5 North"; "Please acknowledge your assignment within 30 seconds otherwise it will be assigned to
10 another taxi", and the like. In addition, the controller 17 is connected to an operator interface 21 including pre-set keys and a touch screen 22 for displaying at least the location of the user to whom its associated taxi driver has been assigned (see Figure 3). The touch screen 22 can have a zoom control 22A for enabling a taxi driver to zoom in and out to display different map areas thereon
15 typically ranging from about a few square hundred meters to a few square kilometers so that, on the one hand, a taxi driver can accurately pinpoint a user's location and, on the other hand, he can have a bird's eye view of, for example, the downtown of the city in which he is driving. The controller 17 is also connected to an interface device 23 for interfacing with the interface device 16 of an user
20 terminal 2. After being assigned to a user, an operator terminal 3 is downloaded with the user's PIN whereupon it is locked to prevent its associated taxi driver picking up another ride until it is unlocked by insertion and withdrawal of the user terminal 2 bearing the user's PIN to which its associated taxi driver has been assigned.

25 Different assignment protocols can be selectively invoked by the control center 4 affording various measures of control to a taxi driver over his assignments, however, which all require that a taxi driver acknowledge an assignment before an indication is transmitted to a user that a taxi driver has been assigned to him. Exemplary assignment protocols are as follows: A Type I

assignment protocol assigns the closest taxi driver to a user available within a given time period of say 30 seconds such that in most likelihood a taxi driver reasonably close to him will be assigned to him. A Type II assignment protocol takes into consideration whether a taxi driver has indicated that he is willing to be
5 assigned to a user when assigning taxi drivers to users. A Type III assignment protocol assigns taxi drivers to users on a first come first served basis, namely, the first taxi driver to become available or indicate that he is willing to be assigned to a user will be assigned to that user. In Type II and III assignment protocols, a taxi driver indicates that he is willing to be assigned to a user by touching the user's
10 location on a touch screen. A taxi driver may indicate that he is willing to be assigned to one or more users. Touching a user's location on the touch screen preferably displays a user's intended destination, if available.

The request dispatch system 1 can also be programmed to cope with a myriad of situations which may occur, for example, debiting a user for a user
15 request which he placed and then cancelled before it was acknowledged or after it was acknowledged subject to different financial penalties. Still further, debiting a user for a user request which he placed and which he forgot to cancel before leaving the location at which he initiated the user request in which case, after a taxi driver has waited for a predetermined period, his operator terminal can
20 automatically be unlocked so that he can pick up a new ride, and crediting the taxi driver therefor.

In Figure 2, the pre-set keys include a TAXI-CALL key 24 for initiating a new user request for a taxi, a MEDI-CALL key 26 for initiating a new user request for medical assistance, an EMERGENCY CALL key 27 for initiating a
25 new user request for emergency help, a GENERAL CALL key 28 for initiating a new user request for general help, a SEND key 29 for confirming a new user request and a CANCEL key 31 for canceling a new user request. The programmable keys can be programmed with addresses of frequently visited destinations, for example, a user's home, his office and the like. Such addresses

can be stored in the controller 9 or the database 7. A display 32 displays system messages and can also be employed for displaying additional information including *inter alia* the name of the taxi driver assigned to him, the TLN of his taxi, his estimated time to arrival, his photograph, and the like.

5 In Figure 3, the pre-set keys includes a FREE FOR ALL RIDES key 32 for enabling a taxi driver to indicate that he is prepared to be assigned to any user, a MANUAL SELECT key 33 for enabling a taxi driver to indicate that he wishes to selectively indicate users to whom he is willing to be assigned, an UNAVAILABLE key 34 for indicating that he is unavailable for assignment to a
10 user; an ACKNOWLEDGEMENT key 36 for indicating that he acknowledges an assignment of a user assigned to him, a USER MISSING key 37 for indicating that he arrived at a user's location in accordance with his assignment however the user was no longer present, a SHORT TRIPS ONLY key 38 for indicating that he is willing to be assigned to short trips only, for example, less than 15 km, a
15 LONG TRIPS ONLY key 39 for indicating that he is willing to be assigned to long trips only, a FARE RATE key 41 for indicating which fare rate is applicable, a PRINT key 42 for printing a receipt 43 on a printer 44, and a CANCEL key 45 for canceling an acknowledgement. The operator interface 21 may also include additional numeric keys for inputting the amount of a fare, the length of time
20 which he estimates it will take him to reach a user to whom he has been assigned, and the like.

The operator interface 21 also includes scroll keys 46 for scrolling through different maps on the touch screen 22 possibly to show the locations of users who have recently initiated user requests such that a taxi driver is aware of the vicinity
25 in which he is most likely to pick up a new ride. Also, users' locations can be color coded to reflect different parameters, for example, the distance between a user's location and his intended destination, for example, the location of a subscriber who has placed a user request for a taxi for a distance under 10 km can be shown in red whilst the location of a subscriber who has placed a user request

for a taxi over 35 km can be shown in blue. Depending on a particular assignment protocol, the locations of users to whom a taxi has been assigned are preferably erased from the touch screens of other available taxis so as to avoid cluttering them with redundant information.

5 The operation of the request dispatch system 1 is now described with reference to Figures 4 and 5 for the assignment of two out of three taxis 313, 523 and 745 currently on duty to two users S1 and S2 having user PINs 4444 and 8888, respectively, in accordance with the Type I assignment protocol described hereinabove.

10 User S1 presses the TAXI-CALL key on his user terminal to indicate that he wishes to order a taxi, presses a key programmed "home" indicating that he wants a ride home and presses the SEND key to confirm his user request which is then transmitted to the control center. A few seconds later, user S2 presses the TAXI-CALL key on his user terminal to indicate that he wishes to order a taxi
15 and presses the SEND key to confirm his user request for a taxi which is then also transmitted to the control center.

The control center logs their details including their locations and retrieves the user's personal details from the database and, at the same time, transmits the same message to both user S1's user terminal and user S2's user terminal: "*Your*
20 *request is being handled. Please wait*". The control center awaits the predetermined duration for a Type I assignment protocol, say, one minute, and in the meantime is updated with the location and whereabouts of the three taxis 313, 523 and 745. Taxi 313 is currently available as is taxi 523 whilst taxi 745 is currently unavailable since he has already picked up a user. The control center
25 computes the distance between each of the users S1 and S2 and the available taxis 313 and 523. In this case, taxi 313 is closer to both users S1 and S2 than taxi 523 but since taxi 313 is closer to user S1 than to user S2, he is assigned to user S1 whilst taxi 523 is assigned to user S2. In addition, the control center

calculates the approximate time of arrival of each of the taxis to their respective users.

In respect of user S1 and taxi 313, and as similarly applies to user S2 and taxi 523, the control center transmits the following message *"You are assigned to pick up User PIN 4444. Please acknowledge your assignment."* to taxi 313. The taxi driver of taxi 313 presses his ACKNOWLEDGEMENT key on his operator terminal whereupon the control center transmits the following message *"Your assignment has been confirmed. Please pick up User PIN 4444"* to him and transmits the user PIN 4444 to his associated operator terminal whereupon taxi 313 is now unavailable to pick up another user other than user S1. At the same time, the control center transmits following message *"Taxi TLN 313 will pick you up in about 5 minutes. Please wait."* to user S1. On arrival of taxi 313 at user S1, he inserts his user terminal into the taxi's operator terminal to start the fare for his ride. He can then withdraw his user terminal from the taxi's operator terminal so that he can use it as a normal cellular telephone. On arrival at user S1's destination, the taxi driver presses the PRINT key on his operator terminal to print a receipt whereupon the fare is added as an item to user S1's monthly bill and the fare is credited to him. Lastly, the taxi's operator terminal transmits a signal to the control center that it is now available to be assigned to another user.

20

Whilst the invention has been described in respect of a particular embodiment thereof, it will be appreciated that many variations, modifications and other applications of the invention may be made. For example, the interface between a user terminal and a mobile unit's operator terminal can be by way of any conventional interface means including either physical interface means or remote means. Also, instead of a GPS based implementation, other location detection technology can be equally employed. Similarly, instead of a cellular telephone based implementation, other network communication technology can be equally employed.

CLAIMS:

1. A system for automatically assigning the driver of an available operator driven mobile unit to a user, the system comprising:
 - 5 (a) a plurality of portable user terminals each carried by a user and having a location detection device for determining the user's location and a user interface for enabling its user to place a new user request and for providing him with at least an indication that the operator of an available operator driver mobile unit has been assigned to him;
 - 10 (b) a plurality of operator terminals each installed in an operator driven mobile unit and having a location detection device for determining the location of its associated operator and an operator interface for providing at least the details of the location of the user to whom its operator is assigned and enabling an operator to acknowledge his assignment to a user; and
 - 15 (c) a control center for automatically assigning the operator of an available operator driven mobile unit to a user in response to a new user request placed by him in accordance with a prevailing assignment protocol.
- 20 2. A system according to Claim 1 wherein an assignment protocol takes into consideration the distances between the users and operators when assigning operators to users.
- 25 3. A system according to either Claim 1 or 2 wherein an assignment protocol takes into consideration the time at which operators are available to be assigned to a user when assigning operators to users.

4. A system according to any one of Claims 1 to 3 wherein an assignment protocol takes into consideration whether operators have indicated whether they are willing to be assigned to a user when assigning operators to users.
- 5 5. A system according to any one of Claims 1 to 4 wherein an assignment protocol takes into consideration the priority of users when assigning operators to users.
6. A system according to any one of Claims 1 to 5 wherein an assignment
10 protocol is selectively invoked as a function of the frequency of new user requests.
7. A system according to any one of Claims 1 to 6 wherein an assignment
15 protocol is selectively invoked as a function of the number of available operator driven mobile units on duty.
8. A system according to any one of Claims 1 to 7 wherein an assignment protocol is selectively invoked as a function of time.
- 20 9. A system according to any one of Claims 1 to 8 wherein users' locations associated with new user requests are displayed on at least some operator terminals associated with operator driven mobile units within a predetermined radius of their locations.
- 25 10. A system according to Claim 9 wherein user requests are color coded for providing information in respect thereof to an operator.

11. A system according to Claim 9 wherein a user's location is deleted from operator terminals of operator driven mobile units whose operators are not assigned to the user after assignment of an operator to him.
- 5 12. A system according to any one of Claims 1 to 11 wherein a user is provided with information regarding the identity of the operator assigned to him.
13. A system according to any one of Claims 1 to 12 wherein a user is provided with information regarding the mobile unit driven by the operator
10 assigned to him.
14. A system according to any one of Claims 1 to 13 wherein a user is provided with an estimated time of arrival of the operator assigned to him.
- 15 15. A system according to any one of Claims 1 to 14 wherein an operator is provided with information regarding the identity of the user to whom he is assigned.
16. A system according to any one of Claim 1 to 15 wherein an operator is
20 provided with information regarding a new user request.
17. A system according to any one of Claims 1 to 16 for assigning a taxi driver to a user.
- 25 18. A system according to Claim 17 wherein a taxi driver is provided with information regarding a user's desired destination.

19. A system according to Claim 17 wherein a taxi driver is precluded from being assigned to a user whose location is beyond a predetermined distance from him.

5 20. A system according to Claim 17 wherein a user is debited in respect of his new user requests and a taxi driver is credited in respect of user requests responded to by him.

21. A system according to any one of Claims 1 to 20 for assigning a
10 paramedical trained person to a user.

22. A system according to any one of Claims 1 to 21 for assigning a roadside assistance technician to a user.

15 23. A user terminal for use in a system according to any one of Claims 1 to 22 and comprising a location detection device for determining the location of a user carrying same and a user interface for enabling its user to place a new user request and for providing at least an indication that an operator of an available operator driven mobile unit has been assigned to him.

20

24. A user terminal according to Claim 23 wherein said user interface enables a user to place a new user request for a taxi.

25 25. A user terminal according to either Claim 23 or 24 wherein said user interface enables a user to input information regarding his desired destination.

26. A user terminal according to any one of Claims 23 to 25 wherein said user interface enables a user to place a new user request for medical assistance.

27. A user terminal according to Claim 26 wherein said user interface enables a user to input information regarding the type of medical assistance he requires.

5 28. A user terminal according to any one of Claims 23 to 27 wherein said user interface enables a user to place a new user request for roadside assistance.

29. A user terminal according to any one of Claims 23 to 28 wherein said user interface enables a user to cancel a new user request.

10

30. A user terminal according to any one of Claims 23 to 29 and further comprising interface means for interfacing with an operator terminal for accounting purposes in respect of new user requests placed by him.

15 31. A user terminal according to any one of Claims 23 to 30 implemented as a cellular telephone-like device and being capable of being used as a normal cellular telephone.

32. An operator terminal for use in a system according to any one of Claims 1
20 to 22 and comprising a location detection device for determining its location and an operator interface for providing at least the details of the location of a user to whom its associated operator has been assigned and enabling an operator to acknowledge his assignment to a user.

25 33. An operator terminal according to Claim 32 wherein said operator interface enables an operator to indicate that he is available to be assigned to all users.

34. An operator terminal according to either Claim 32 or 33 and wherein said operator interface enables an operator to indicate that he wishes to selectively indicate to which users he is willing to be assigned.

5 35. An operator terminal according to any one of Claims 32 to 34 wherein said operator interface enables an operator to indicate that he is unavailable to be assigned to a user.

10 36. An operator terminal according to any one of Claims 32 to 35 wherein said operator interface enables an operator to indicate that he is only willing to be assigned to either short or long trips.

15 37. An operator terminal according to any one of Claims 32 to 36 wherein said operator interface enables an operator to cancel an acknowledgement of a user request.

38. An operator terminal according to any one of Claims 32 to 37 wherein said operator interface enables an operator to print a receipt in respect of a taxi ride.

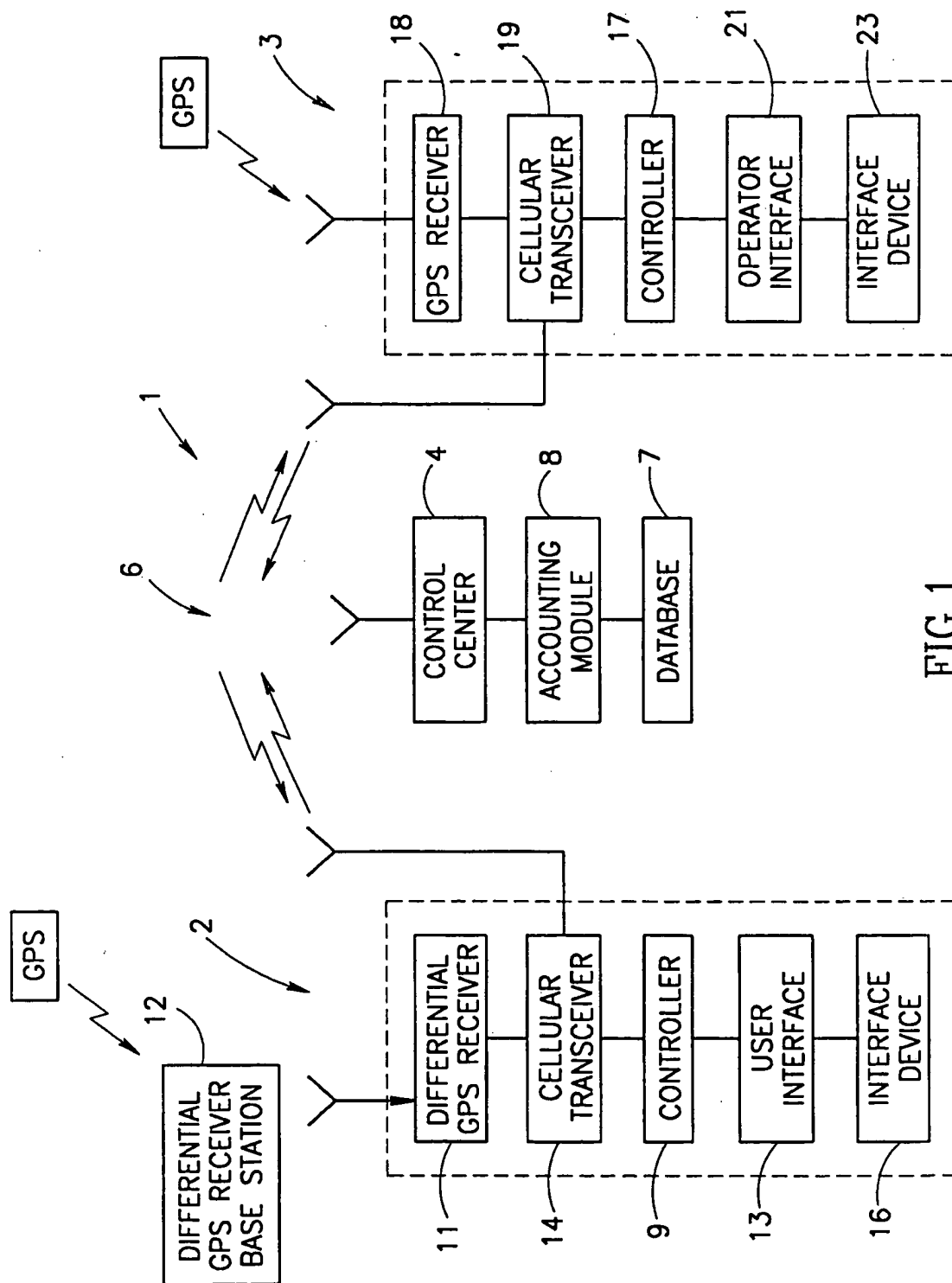
20

39. An operator terminal according to any one of Claims 32 to 38 wherein said operator terminal enables an operator to scroll through different vicinities on a display showing the locations of users.

25 40. An operator terminal according to any one of Claims 32 to 39 wherein said operator interface includes a touch screen enabling an operator to indicate the location of a user thereon to whom he is willing to be assigned.

41. An operator terminal according to any one of Claims 32 to 40 and further comprising an interface means for interfacing with a user terminal for accounting purposes in respect of new user request responded to by him.
- 5 42. An operator terminal according to any one of Claims 32 to 42 implemented as a taxi-like meter and being capable of being used as a taxi meter.
43. A method for automatically assigning an operator of an available operator driven mobile unit to a user, the method comprising the steps of:
- 10 (a) enabling a user to place a new user request;
- (b) automatically assigning the operator of an available operator driven mobile unit to the user in response to his new user request in accordance with a prevailing assignment protocol;
- (c) enabling the operator to acknowledge his assignment to a user;
- 15 (d) displaying an indication of the assignment of the operator to the user; and
- (e) providing at least the details of the location of a user to the operator to whom he is assigned so that the operator can arrive at the user's location.

1/6



2/6

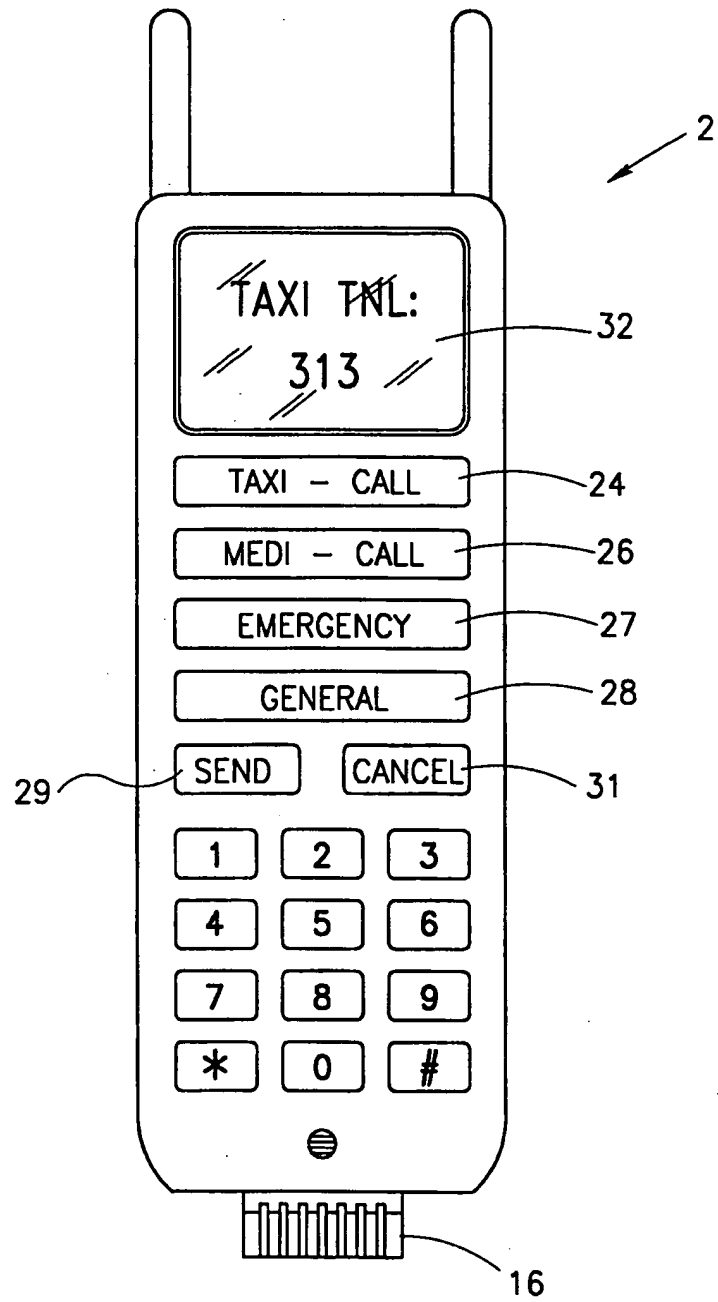


FIG.2

3/6

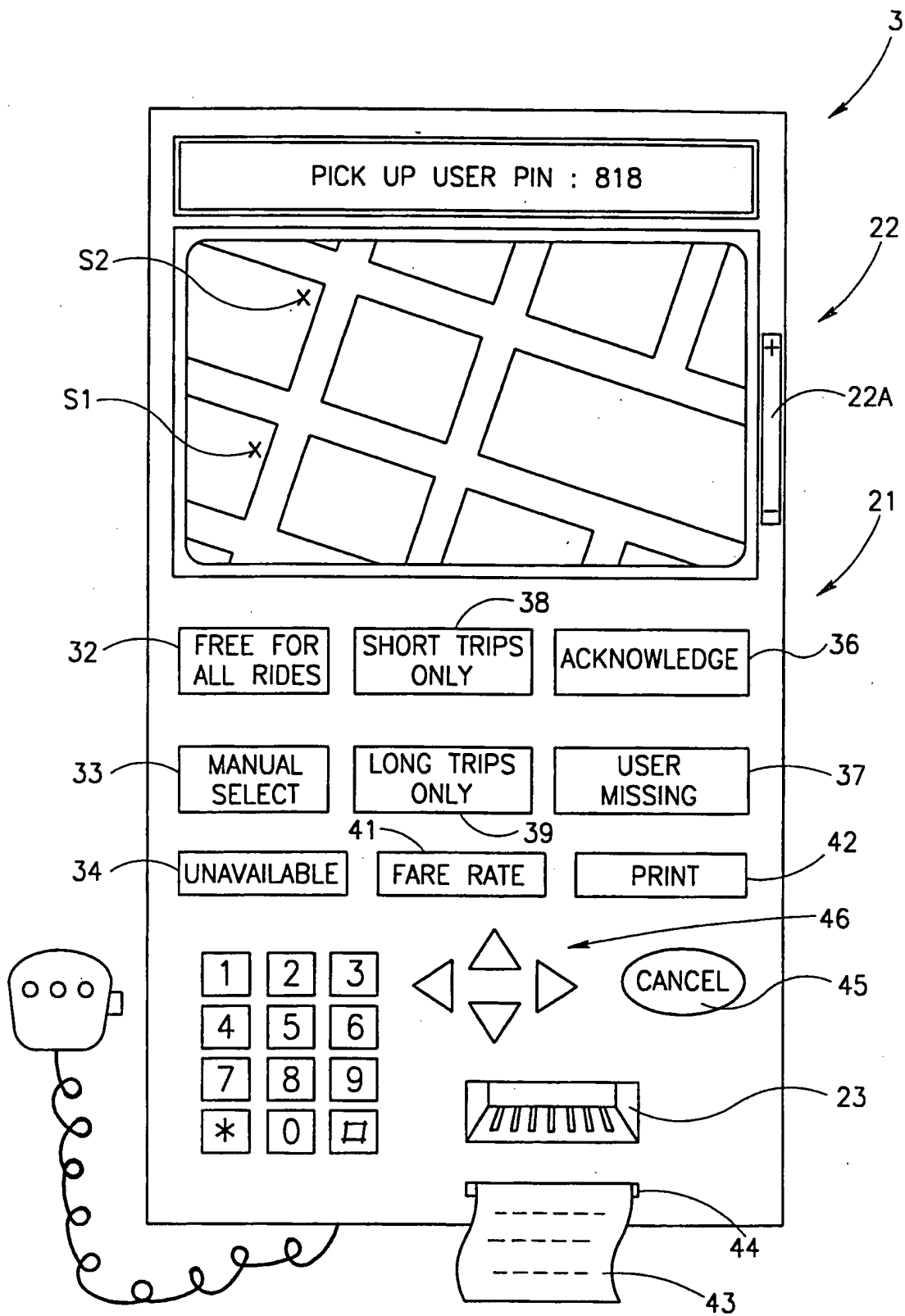


FIG.3

4/6

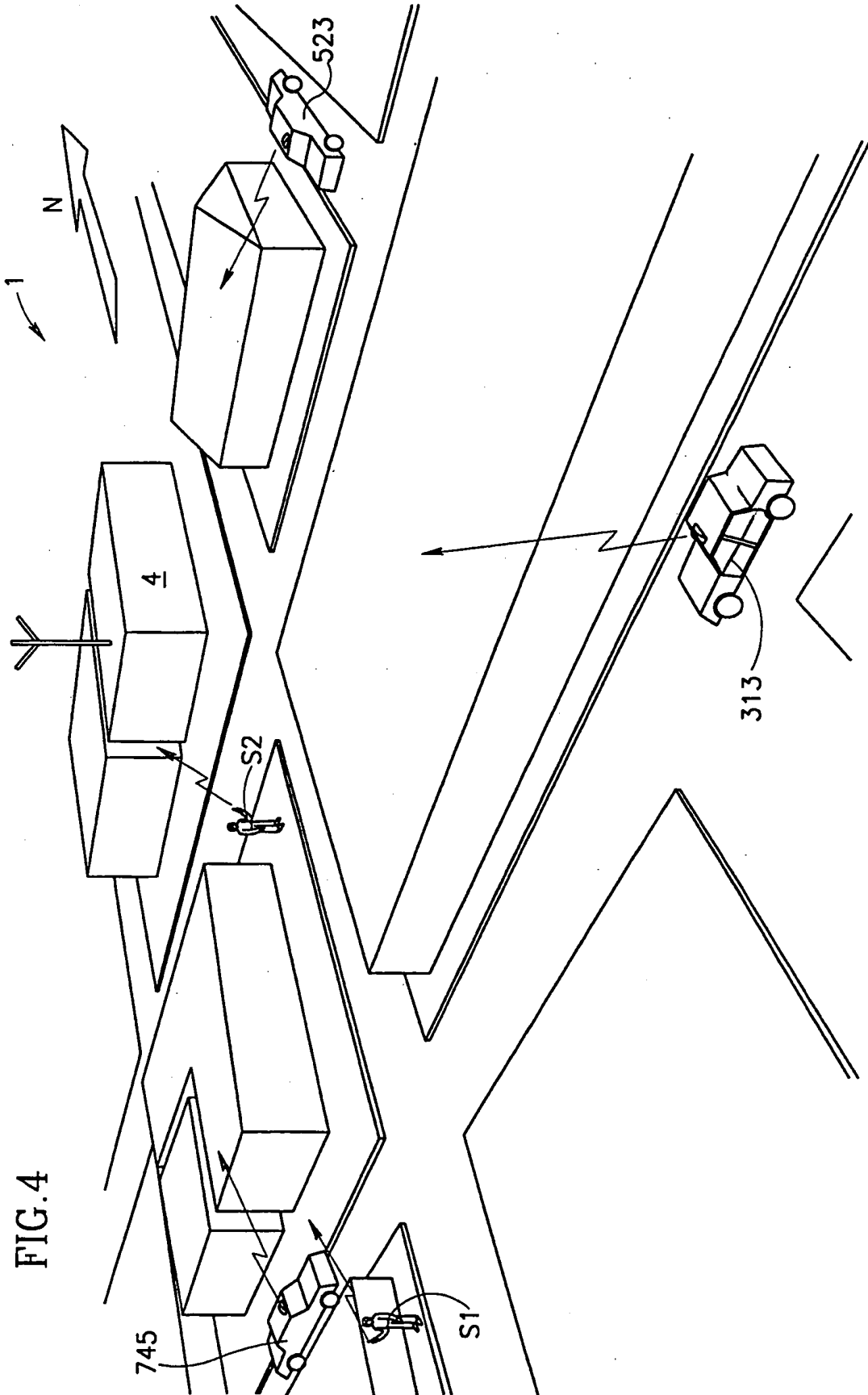


FIG. 4

5/6

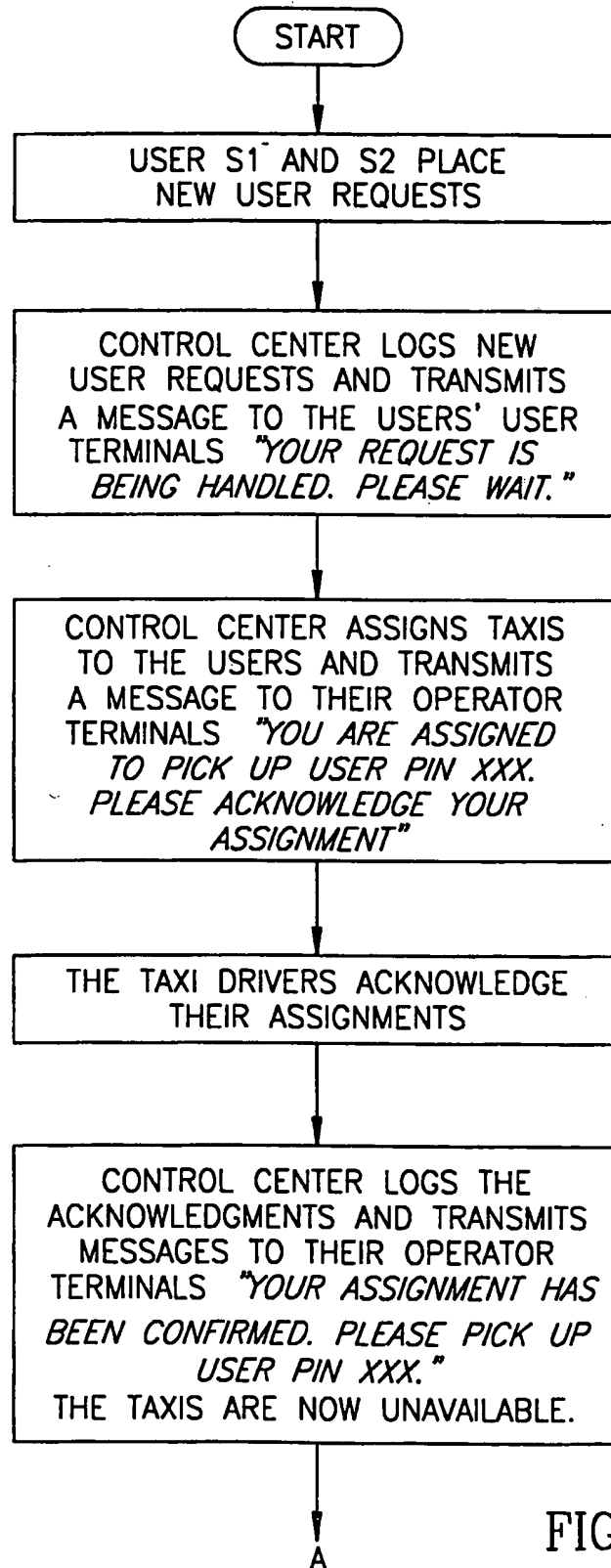


FIG.5A

6/6

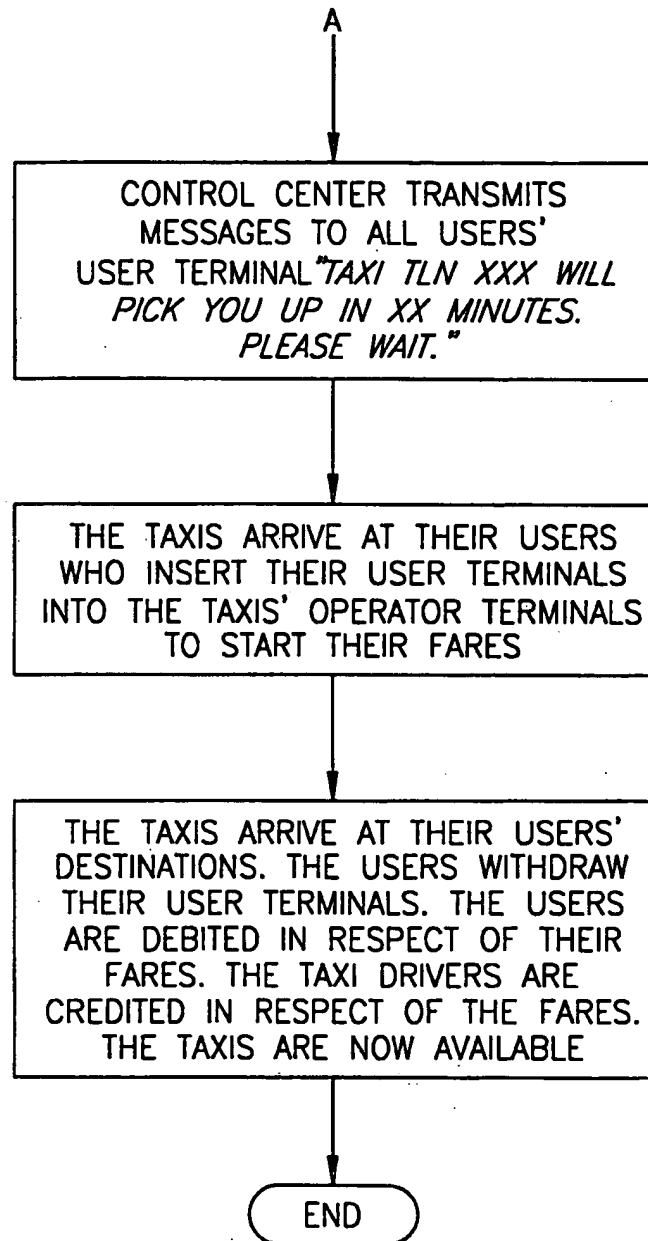


FIG.5B

INTERNATIONAL SEARCH REPORT

In national Application No

PCT/IL 99/00111

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G08G1/127

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 18521 A (SMITH CHRIS C) 22 May 1997 see figures 1-6B	1,43
Y		2
A		3-42
Y	WO 96 13021 A (FURLONG REGINALD FORRESTER ;BREWER PAUL (AU); VOLGERS PETER (AU)) 2 May 1996 see the whole document	2
A		3-42
A	FR 2 674 355 A (GRP TAXI STE NOUVELLE) 25 September 1992	
A	FR 2 740 249 A (AXYGEST) 25 April 1997	
A	FR 2 703 200 A (OBADIA ALAIN ;PARIENTI RAOUL) 30 September 1994	
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

23 June 1999

Date of mailing of the international search report

30/06/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Crechet, P

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 99/00111

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 89 03106 A (SPECTRONICS MICRO SYST LTD) 6 April 1989</p> <p>-----</p>	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 99/00111

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9718521 A	22-05-1997	US 5835376 A AU 7482496 A EP 0865635 A	10-11-1998 05-06-1997 23-09-1998
WO 9613021 A	02-05-1996	AU 3646295 A EP 0796482 A	15-05-1996 24-09-1997
FR 2674355 A	25-09-1992	NONE	
FR 2740249 A	25-04-1997	NONE	
FR 2703200 A	30-09-1994	NONE	
WO 8903106 A	06-04-1989	AU 2484588 A DE 3851539 D DE 3851539 T EP 0389488 A	18-04-1989 20-10-1994 02-02-1995 03-10-1990